

**TEMPERATURE VARIANCE REDUCTION USING VARIABLE
PENETRATION DILUTION JETS**

ABSTRACT OF THE DISCLOSURE

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10 A variable penetration dilution jet array for a single can and scroll assembly includes a plurality of differentially sized dilution openings around the circumference of the combustor can. The alternating smaller and larger openings provide for circumferential and radial mixing uniformity with the smaller openings giving shallow penetration and the larger openings enabling deep core penetration. The larger openings provide dilution air to the hot gas flow core without the need for an increase in combustor pressure drop. The smaller openings provide a film cooling flow to the downstream scroll, reducing dedicated scroll cooling requirements.